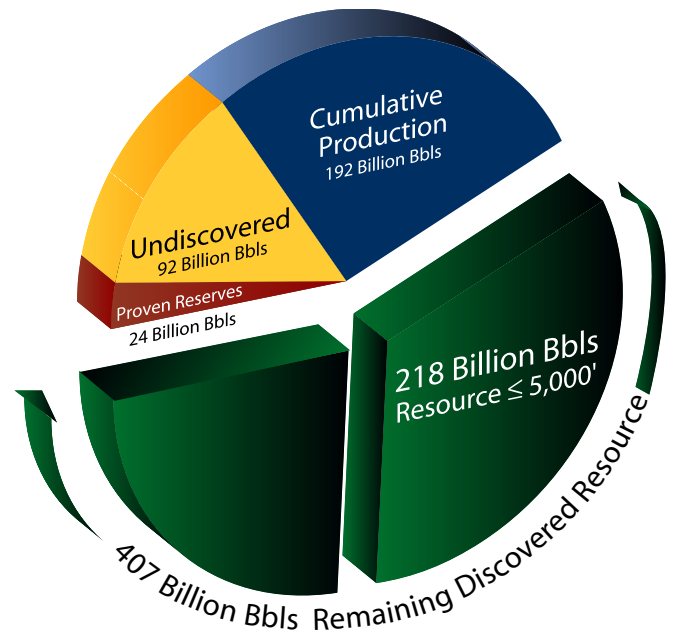


## why is it needed?

Only about one-quarter of technically recoverable domestic oil resources are considered economically recoverable even at today's high oil prices. The attraction of microhole drilling is the prospect of greatly reducing the cost of drilling shallow- and moderate-depth holes for exploration, field development, long-term subsurface monitoring, and to a limited degree, actual oil and gas production. If the costs of the activities can be reduced, oil and gas reservoirs that are uneconomic to produce today could become economically viable in the future.

The fact that microhole technologies reduce the costs of overall operations makes exploration and production of domestic resources economically attractive to the independent operators that produce most of the domestic oil. These new low cost production and reservoir monitoring capabilities are essential to developing the new E&P paradigm needed to invigorate the domestic oil and gas industry and enable it to recover significantly more of the petroleum resource in America's mature basins.



## what are the expectations?

Microdrilling technologies along with micro-instrumentation are expected to provide low-cost wells for exploration, long-term reservoir monitoring, and increased production. Reduction in materials, labor, and support equipment all serve to reduce drilling costs by as much as one-half the cost of drilling a conventional well. Volumes of drilling fluids and cuttings can also be lowered by one-fifth, reducing disposal costs. Smaller footprints and lower disposal volumes lower the environmental impact of drilling activities making microhole drilling applicable in environmentally sensitive areas. Overall coiled tubing drilling efficiency improvements are expected

be a carryover benefit from this program that will be picked up in ultra-deep water offshore operations.

The economic and environmental benefits resulting from the MHT Program are expected to increase E&P activities thereby increasing domestic oil and gas production and revenues from Federal Lands. An additional 10% recovery of the remaining 218 billion barrels of oil from reservoirs less than 5,000' deep is a conservative estimate of the potential results of the MHT program; this represents 10 years of OPEC imports.